

WHAT IS CLAIMED IS:

1 1. A method for verifying data written onto a first memory device by a data
2 storage system, the method comprising:
3 generating a sequence of numbers based on a seed value using a pseudo random
4 number generator, the seed value including a time sensitive code;
5 writing the sequence of numbers on the first memory device and a second
6 memory device using the data storage system;
7 reading data stored on the first memory device and the second memory device;
8 and
9 comparing the data read from the first memory device to the data read from the
10 second memory device to evaluate integrity of the data written onto the first memory device.

1 2. The method according to claim 1 wherein writing the sequence of
2 numbers on the first memory device further comprises:
3 writing the sequence of numbers onto the first memory device at a logical block
4 address.

1 3. The method according to claim 2 wherein writing the sequence of
2 numbers on the second memory device further comprises:
3 storing the sequence of numbers on the second memory device at the logical
4 block address.

1 4. The method according to claim 3 wherein reading the data stored on the
2 first memory device using the data storage system further comprises:
3 reading the data stored at the logical block address.

1 5. The method according to claim 2 wherein the seed value includes the logic
2 block address.

1 6. The method according to claim 1 wherein the time sensitive code includes
2 a date and a time that the sequence of numbers was generated.

1 7. The method according to claim 1 wherein the first memory device is a
2 magnetic hard disk and the data storage system is a hard disk drive.

1 8. The method according to claim 1 wherein the first memory device is an
2 optical disk and the data storage system is an optical disk drive.

1 9. The method according to claim 1 wherein the time sensitive code is stored
2 in a database and is linked to a date and a time.

1 10. A data storage system comprising:
2 a pseudo random number generator that generates a sequence of numbers based
3 on a seed value that includes an event sensitive code; and
4 a controller for the data storage system that writes the sequence of numbers on a
5 memory device under test,
6 wherein the controller reads the sequence of numbers stored on the memory
7 device under test, and compares the sequence of numbers to expected data to determine if the
8 data storage system is functioning properly, the expected data being generated from data stored
9 on a second memory device.

1 11. The data storage system according to claim 10 wherein the controller
2 writes the sequence of numbers on the second memory device, the controller reads the sequence
3 of numbers stored on the second memory device, and the expected data is the sequence of
4 numbers read from the second memory device.

1 12. The data storage system according to claim 10 wherein the controller
2 writes the seed value on the second memory device, the pseudo random number generator
3 regenerates the sequence of numbers based on the seed value stored on the second memory
4 device, and the regenerated sequence of numbers is the expected data.

1 13. The data storage system according to claim 10 wherein the memory device
2 under test is a magnetic hard disk drive and the controller is a hard disk drive controller.

1 14. The data storage system according to claim 10 wherein the event sensitive
2 code includes a date and a time.

1 15. The data storage system according to claim 14 wherein the seed value
2 includes a logic block address corresponding to a location where the controller writes the
3 sequence of numbers on the memory device under test.

1 16. The data storage system according to claim 10 wherein the controller
2 writes the sequence of numbers on the memory device under test at a logical block address and
3 on the reference drive at the corresponding logical block address.

1 17. The data storage system according to claim 16 wherein the controller
2 reads the sequence of numbers stored on the memory device under test at the logical block
3 address.

1 18. The method according to claim 10 wherein the memory device under test
2 is an optical disk and the data storage system is an optical disk drive.

1 19. The method according to claim 10 wherein the time sensitive code is
2 stored in a database and is linked to a date and a time.

1 20. A method for verifying data written onto a memory device under test by a
2 data storage system, the method comprising:

3 generating a sequence of numbers based on a seed value using a pseudo random
4 number generator, the seed value including a date and a time;

5 writing the sequence of numbers on the memory device under test using the data
6 storage system;

7 storing the seed value in a second memory device;

8 regenerating the sequence of numbers based on the seed value stored in the
9 second memory device using the pseudo random number generator;

10 reading the sequence of numbers stored on the memory device under test; and

11 comparing the regenerated sequence of numbers to the sequence of numbers read
12 from the memory device under test to determine an integrity of data written onto the memory
13 device under test.